

WHAT IS CLAIMED IS:

1. A cooperative processing apparatus for executing a cooperative process of respective services based on cooperative instruction information representing an instruction for cooperating a plurality of services for respectively executing predetermined processes on document data, on a network, the cooperative processing apparatus comprising:

an error determining section that determines an error which occurs in a service in the cooperative process;

a document detecting section that detects the presence or absence of document data processed by the cooperative process; and

a cooperative control section that reexecutes the cooperative process based on the error determined by the error determining section and the presence or absence of document data detected by the document detecting section.

2. A cooperative processing apparatus according to claim 1, further comprising a service type determining section that determines types of the services constituting the cooperative process, wherein the cooperative control section reexecutes the cooperative process further based on the service types determined by the service type determining section.

3. A cooperative processing apparatus according to claim 1, wherein when an error determined by the error determining section is a recoverable error and the document detecting section detects that document data are present, the cooperative control section reexecutes the cooperative process starting from a service which is closest to and previous to the service in which the error has occurred in the cooperative process.

4. A cooperative processing apparatus according to claim 2, wherein when a service type determined by the service type determining section is a type of noncancelable service, the cooperative control section reexecutes the cooperative process so as to skip the noncancelable service.

5. A cooperative processing apparatus according to claim 1, wherein when an error determined by the error determining section is an unrecoverable error and the document detecting section detects that document data are not present, the cooperative control section carries out a predetermined notification.

6. A cooperative processing method of making a computer execute a cooperative process of respective services based on cooperative instruction information representing an instruction for cooperating a plurality of services for

respectively executing predetermined processes on document data, on a network, the method comprising:

a step of determining an error which occurs in a service in the cooperative process;

a step of detecting the presence or absence of document data processed by the cooperative process; and

a cooperative control step of reexecuting the cooperative process based on the error determined at the error determining step and the presence or absence of document data detected at the document detecting step.

7. A cooperative processing method according to claim 6, further comprising a service type determining step of determining types of services constituting the cooperative process, wherein at the cooperative control step, the cooperative process is reexecuted further based on the service types determined at the service type determining step.

8. A cooperative processing method according to claim 6, wherein when an error determined at the error determining step is a recoverable error and the presence of document data are determined at the document detecting step, the cooperative process is reexecuted, at the cooperative control step, starting from a service which is closest to and previous to the service in which the error has occurred in the cooperative

process.

9. A cooperative processing method according to claim 7, wherein when a service type determined at the service type determining step is a type of noncancelable service, the cooperative process is reexecuted so that the noncancelable service is skipped at the cooperative control step.

10. A cooperative processing method according to claim 6, wherein when an error determined at the error determining step is an unrecoverable error and the absence of document data are detected at the document detecting step, a predetermined notification is carried out at the cooperative control step.

11. A cooperative processing system comprising:

a plurality of service processing apparatuses for cooperatively executing a plurality of services for respectively executing predetermined processes on document data, on a network; and

a cooperative processing apparatus for making the service processing apparatuses execute a cooperative process based on cooperative instruction information representing an instruction for cooperatively executing the services,

wherein the cooperative processing apparatus includes, an error determining section that determines an error

which occurs in a service in the cooperative process,

a document detecting section that detects the presence or absence of document data processed by the cooperative process, and

a cooperative control section that reexecutes the cooperative process based on the error determined by the error determining section and the presence or absence of document data detected by the document detecting section.

12. A cooperative processing system according to claim 11, wherein:

the cooperative processing apparatus further includes a service type determining section that determines types of the services constituting the cooperative process; and

the cooperative control section reexecutes the cooperative process further based on the service type determined by the service type determining section.

13. A cooperative processing system according to claim 11, wherein, when an error determined by the error determining section is a recoverable error and the document detecting section detects that document data are present, the cooperative control section reexecutes the cooperative process starting from a service which is closest to and previous to the service in which the error has occurred in the cooperative process.

14. A cooperative processing system according to claim 12, wherein when a service type determined by the service type determining section is a type of noncancelable service, the cooperative control section reexecutes the cooperative process so as to skip the noncancelable service.

15. A cooperative processing system according to claim 11, wherein when an error determined by the error determining section is an unrecoverable error and the document detecting section detects that document data are not present, the cooperative control section carries out a predetermined notification.